



Annual Assessment Report 2021-2022

BS Chemistry and Biochemistry: American Chemical Society, Biochemistry, and General

Chemistry & Biochemistry

College of Science

CONTACT

Name of Program Assessment Lead Kathryn McCulloch and Alex John

Name of Person Completing Report Kathryn McCulloch

DISCIPLINARY ACCREDITATION Yes

DEVELOPMENT AND DOCUMENTATION OF STUDENT LEARNING OUTCOMES

How were the program's SLOs developed? (select all that apply)

- Our disciplinary accrediting agency has recommended learning outcomes, so we used and/or modified them.

Other than the [CPP Catalog](#) and the [Office of Assessment and Program Review website](#), where else are your SLOs published? Select all that apply.

- Department Website - provide URL: <https://www4.cpp.edu/sci/chemistrybiochemistry/about-thedepartment/learningoutcomes.shtml>
- Course Syllabi

ASSESSMENT ACTIVITIES IN 2021-2022

This section provides the opportunity for programs to share and discuss assessment activities conducted in **AY 2021-2022**. This includes data collection, rubric development, data analysis, discussion of findings, development or implementation of closing the loop improvement strategies, update of your assessment plan and/or curriculum matrix, etc.

How many total SLOs does your program assess according to your assessment plan?

- 3

How many SLOs did your program assess this past year in 2021-2022?

- My program assessed SLOs in AY 2021-2022

Please list the SLOs examined

- SLO #1: Students will compare, contrast, and predict physical and chemical properties based on atomic and molecular structure. Students will apply these principles to the chemistry of living systems and demonstrate the ability to solve quantitative, interdisciplinary, and real-world problems.

Student Learning Outcome (SLO): Students will compare, contrast, and predict physical and chemical properties based on atomic and molecular structure. Students will apply these principles to the chemistry of living systems and demonstrate the ability to solve quantitative, interdisciplinary, and real-world problems.

Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence
<ul style="list-style-type: none"> Created/modified/discussed assessment procedures (e.g., SLOs, curriculum matrix, mechanism to collect student work, rubric, survey, etc.) 		
<ul style="list-style-type: none"> Collected direct evidence (e.g., student work, exam items, etc.) Scored direct evidence of student learning Interpreted and made meaning of findings for direct evidence 	<ul style="list-style-type: none"> Assignment/exam/paper completed as part of regular coursework 	<ul style="list-style-type: none"> Used rubric or scoring guide Scored exams/tests/quizzes

Findings			
N of Artifacts	Criterion Used	Goal Met	Eye-opening Result
105	percentage of students at mastery level	Yes	Use of the same question in both lab exams allowed for students to demonstrate growth and increase in mastery of this core chemical competency.

IMPROVING THROUGH ASSESSMENT

Overall, what best describes how the program used the results in 2021-2022? Select all that apply.

- Assessment procedure changes (SLOs, curriculum matrix, rubrics, evidence collected, sampling, communications with faculty, etc.)
- Use is pending (typical reasons: insufficient number of students in population, evidence not evaluated or interpreted yet, faculty discussions are ongoing, etc.)
- Other, please explain: for use is pending, faculty discussions are ongoing during department meetings

Ideas to improve student learning can come from different constituents. With whom did the program discuss assessment planning and/or share results during AY 2021-2022? Select all that apply.

- Program/department faculty as whole
- A committee of program/department faculty
- Program/department assessment committee
- College assessment committee
- College Assessment Liaison

The past academic year posed both challenges and opportunities. Please share any assessment discoveries (e.g., insights about assessment procedures, great achievements, etc.) regarding program assessment in 2021-2022 so that others may learn from your experiences.

The ongoing remote instruction format during AY 2021 - 2022 made one of the usual assessment tools, the national American Chemical Society Organic Chemistry exam, less useful this year due to the availability of the answer key online. As a result, we were not able to compare how our students have performed relative to their peers across the country. However, our Department's approach of having a core group of faculty from the division whose course is being assessed work together to develop a rubric allowed for arguably a more impactful assessment by using student data from a sequenced course, demonstrating growth of our students as they progress through the curriculum. The key to this success is to bring in the right faculty to design assignments and the rubric, administer the test, and analyze the data.

CPP's GI2025 goals What assessment-related efforts do you already implement, or would implement to support the campus' diversity, equity, and inclusion (DEI) efforts? (e.g., planned or current disaggregation of assessment data by race/ethnicity, etc.) Undergraduate programs may wish to refer to CPP's GI2025 goals. (Not Mandatory)

Our program will continue to assess the SLOs according to our assessment plan and timeline. Future efforts will include examining equity gaps in SLOs for the courses marked for assessment. Once these data are in hand, closing the loop strategies will be used to discuss the findings, drive potential changes to the curriculum or instruction, and then be reassessed in a future year.

Does the program offer a certificate or credential (e.g., teaching credential)?

- No

The most current assessment plan and curriculum matrix we have on file for your program may be found [here](#). To ensure we have the most updated assessment plan and curriculum matrix for your program, and for posting on our website, please upload the following documents:

Assessment Plan

Yes

Curriculum Matrix

Yes

If you would like us to review other assessment documents such as your evidence (e.g., assignment, survey, interview questions etc.) or scoring rubric, please upload/provide them. (Select all that apply)

- Evidence
- Rubric